

**Translation of Publication Document DE 40 14 477 A1**  
**(Publication of Laid-Open Patent Application)**

---

(19) **FEDERAL  
REPUBLIC  
OF GERMANY**

(Seal)

**GERMAN  
PATENT  
OFFICE**

(12) **Publication of  
Laid-Open Application**

(10) **DE 40 14 477 A1**

(21) File Number: P 40 14 477.1  
(22) Application Date: 7 May 1990  
(43) Date of Laying Open  
of Application: 25 July 1991

(51) International  
Classification,  
5th Edition:

**G 07 C 15/00**

A 63 F 5/00  
G 07 F 17/34

---

(30) Domestic Priority: (32) (33) (31)  
22 January 1990 DE 40 01 639.0

(71) Applicant:  
Th. Bergmann GmbH & Co,  
2084 Rellingen, DE

(74) Representatives:  
Schmidt-Bogatzky, J., Dipl.-Ing. Dr.-Ing.,  
2000 Hamburg; Wilhelms, R.,  
Dipl.-Chem. Dr.rer.nat.; Kilian, H.,  
Dipl.-Phys. Dr.rer.nat., Patent Attorneys,  
8000 München

(72) Inventor:  
Bergmann, Tjark, 2000 Hamburg, DE

---

Request for examination according to § 44 Patents Act has been filed.

(54) Coin-operated Gaming Machine of the Roulette Type

## Description

The invention concerns a method for operating a coin-operated gaming  
5 machine of the roulette type, with a roulette-like number pan and setting keyboard  
arranged on the front side of the coin-operated gaming machine, in which the  
player determines the amount of the stake by inserting coins and subsequent  
selection by means of keys, and a microprocessor then determines the result of  
the game by means of a random algorithm, and, if a set number has been hit,  
10 activates the coin payout unit for ejecting the winnings, and a coin-operated  
gaming machine for carrying out the method.

In known coin-operated gaming machines of the relevant kind, numbers  
from 0 to 12 can be set by means of one or more coins. Depending on the set  
number range and on the player's selection, in the event of a win an amount of up  
15 to twelve times the stake set on the winning number can be paid out. It has been  
shown, however, that a maximum obtainable win multiplier of 12 gives players,  
who are aware of the possibility of achieving jackpot wins from other coin-  
operated gaming machines, only a slight incentive to play.

The object of the invention is to improve the above-mentioned method for  
20 operating a coin-operated gaming machine of the roulette type in such a way that,  
depending on chance, there is the possibility of achieving a jackpot-like maximum  
win. Further, the object of the invention is to design a coin-operated gaming  
machine so that it allows the method to be carried out.

According to the invention, the solution for achieving this object is  
25 obtained, with respect to the method, by means of the characterizing features of  
claim 1, and it is obtained, with respect to the coin-operated gaming machine, by  
means of the characterizing features of claim 4. Advantageous embodiments of  
the invention are described in the dependent claims.

According to the invention, it is possible for the player that, in the event of  
30 a hit of the set number, the random number generator of the additional processor  
determines a win multiplier for the win which is a multiple higher than in known  
coin-operated gaming machines. In coin-operated gaming machines designed  
according to the invention, the factors of the random win multiplier are graded, for

example, in the following divisions: 10, 25, 50, 100, 1000 or 8, 12, 20, 100, 1000. The statistical average of payouts actually made likewise amounts to 12, that is to say, even when the additional random number generator is used, the statistical average remains at the win multiplier of 12. However, the random number  
5 generator of the additional processor is so designed that in 85%, or 65%, respectively, of all game situations, when a set number is hit, the random number generator determines only the lower win multiplier. Thus, if 15 stakes are placed on one number, in this case the player receives only ten times or eight times his stakes and therefore less than in the known coin-operated gaming machines. In  
10 contrast, in 15%, or 35%, respectively, of all game situations, when a set number is hit the random number generator of the additional processor determines a higher win multiplier, such as, for example, 25, 50, 100, 1000 or 12, 10, 100, 1000. Thus, with 15 stakes on the hit number, a jackpot-like main win of fifteen thousand stakes is possible. This appreciably increases the player's incentive to  
15 play. Because the additional processor is designed as a 33 bit processor with a random number generator, as a result of the large number of approximately 4.2 billion basic numbers it is virtually impossible to determine a random combination producing a jackpot. This affords the machine operator a good safeguard against unauthorized persons obtaining a jackpot by manipulation.

20 A risk circuit can also be provided additionally or alternatively. By the actuation of a risk key, the player can then, for example, play by risking the jackpot and thereby has the possibility of achieving a kind of superjackpot. It is advantageous, in this case, to display the "jackpot" status on the front face of the coin-operated gaming machine, so that the player still has the opportunity for a  
25 short period of time of commencing the risk game.

A coin-operated gaming machine according to the invention is shown in the drawings in a perspective view. This machine will be explained in further detail below.

On the front side of the machine housing 2 of the coin-operated gaming  
30 machine 1 there are formed a roulette-like number pan 3 and a setting keyboard 10. Above the number pan 3 there is located a built-on part 4 with a display panel 5 for win multipliers and a display panel 6 for indicating that the coin-operated gaming machine 1 is a roulette-type gaming machine. On the top side of the built-

on part 4 there is located a flash lamp 7 which flashes in the event of a fault of the coin-operated gaming machine and in the event of a jackpot. The supervisory personnel can thereby immediately recognize deviations from the normal playing mode or the occurrence of faults. The built-on part 4 can also be integrated into  
5 the actual machine housing 2. Next to the number pan 3 there is located a display panel 8 for the win display and a display panel 9 for indicating the stake still available. Between the number pan 3 and the setting keyboard 10 there are arranged function keys 11, 12 and the coin-insertion slot 13. Arranged under the setting keyboard 10 there are further function keys 14, 15, 16 and the coin-  
10 ejection tray 17.

The setting keyboard 10 has keypads for the numbers 0 to 12 and keypads for the high numbers 7 to 12 and for the low numbers 1 to 6 and for numbers arranged only on the black or only on the red background. The maximum stake of coins in one playing period is limited to 15 coins for each of  
15 the keypads. If the set number is hit, a hit is obtained. In this case, the microprocessor of the control unit in the machine housing activates an additional processor having a random number generator which determines the win multiplier on the basis of the read-in algorithm. This win multiplier can be organized, for example, according to a grading of 10, 25, 50, 100, 1000 or 8, 12, 20, 100, 1000.  
20 When the win multiplier 1000 is determined, a jackpot is achieved and the coin-operated gaming machine 1 ejects an amount of 1000 times the stake, in this example 15000 coins.

25

## Patent Claims

1. A method for operating a coin-operated gaming machine of the roulette type, the gaming machine including a roulette-like number pan and setting keyboard arranged on the front side of the coin-operated gaming machine,  
30 wherein the player determines the amount of the stake by inserting coins and subsequent selection by means of keys, and then a microprocessor determines the result of the game by means of a random algorithm, and, if a set number is hit, the coin payout unit is activated for outputting the winnings, **characterized in**

that, if a set number is hit, the microprocessor activates a further processor having a random number generator, said random number generator determining a win multiplier dependent on an algorithm that has been read in, and multiplying said win multiplier by the amount of the stake on the number that has been hit,  
5 and then activating the payout unit for outputting a number of coins, the quantity of which corresponds to the product of the stake on the number that has been hit times the win multiplier.

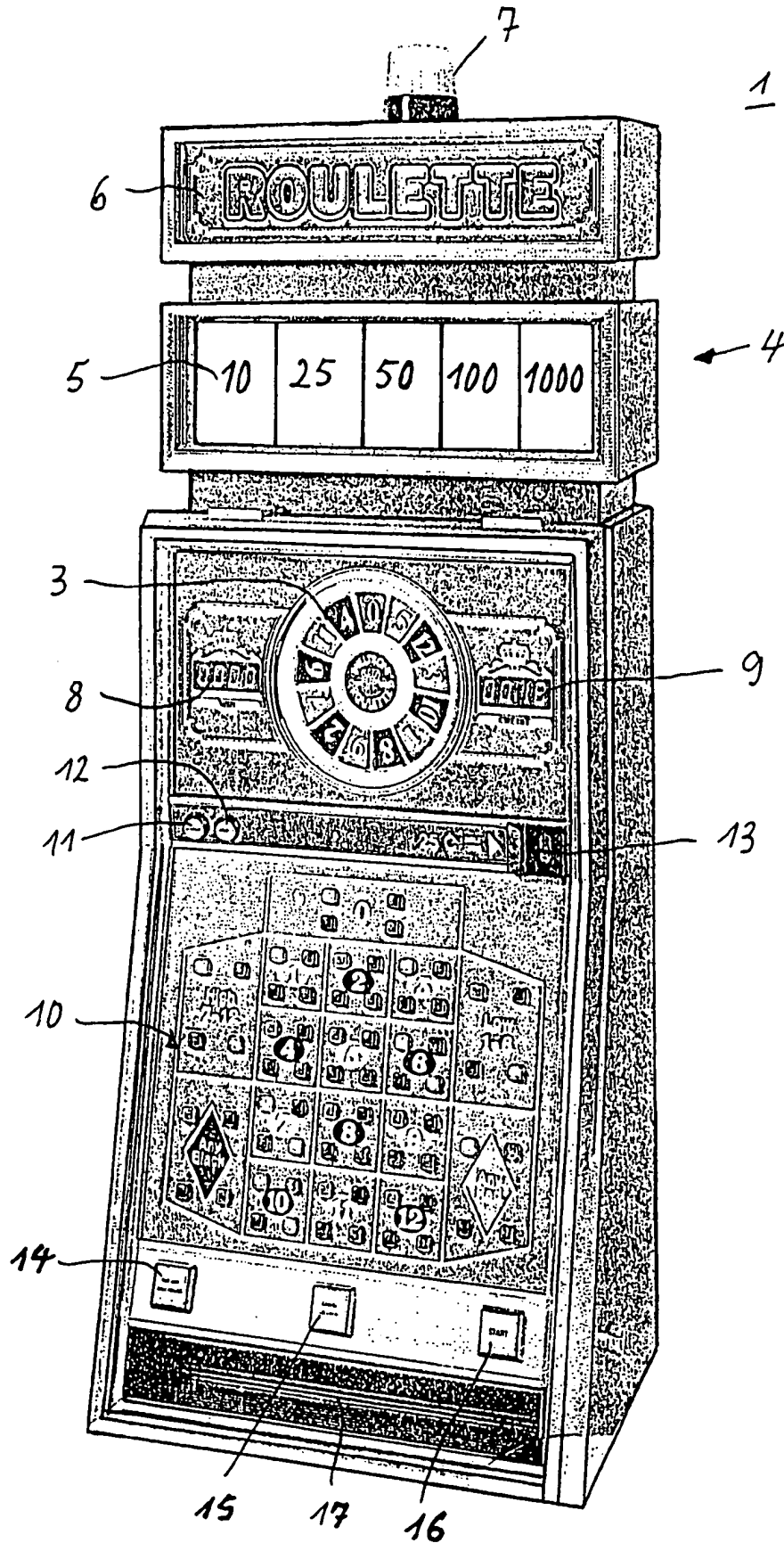
2. The method according to claim 1, characterized in that the microprocessor  
10 controls a 33 bit processor.

3. The method according to claims 1 and 2, characterized in that the signal representing the win multiplier is fed to a risk circuit.

15 4. A coin-operated gaming machine according to any one of claims 1 to 3, characterized in that the microprocessor is connected to a further processor having a random number generator which is adapted to be activated if a set number is hit and which is connected to a payout unit.

20 5. The coin-operated gaming machine according to claim 4, characterized in that the further processor is designed as a 33 bit processor.

6. The coin-operated gaming machine according to claims 4 and 5, characterized in that the further processor is designed as a random number  
25 generator.



BEST AVAILABLE COPY